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薄唇蕨属的分类研究*

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Taxonomy of the fern genus *Leptochilus* Kaulf.(Polypodiaceae)

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Abstract *Leptochilus* is a small microsoroid genus in Polypodiaceae. The circumscription of this genus was quite ill-delimited and its species were once referred to *Paraleptochilus*, *Dendroglossa*, *Myuropteris* and *Nistarika*. Most recently, species of the genus *Colysis* were incorporated in it, resulting in more confusion in its taxonomy. During the preparation of an account for Flora of China, we made an analysis of the major morphological characters, geographical distribution, as well as the spore morphology of this genus. We found that *Leptochilus* and *Colysis* are obviously different in the pattern of their sori and thus the latter should be treated as an independent genus, but the four genera, i.e. *Paraleptochilus*, *Dendroglossa*, *Myuropteris* and *Nistarika*, cannot be accepted and are here reduced to synonyms of *Leptochillus*.

Key words *Leptochilus*; Taxonomic revision

摘要 薄唇蕨属是水龙骨科星蕨类植物中的一个小属,其范围时大时小,没有稳定的概念。我们在编写《中国植物志》的过程中,分析了该属植物和星蕨类其它属植物的形态和地理分布,扫描了全部种类的孢子,认为薄唇蕨属不同于线蕨属,它包括了过去分出的似薄唇蕨属和树舌蕨等属。

关键词 薄唇蕨属; 分类研究

薄唇蕨属 *Leptochilus* 是 Kaulfuss 于 1824 年建立的一个分布于亚洲热带地区的属。Copeland(1928)认为它是包括 2 个种的小属。秦仁昌(1933)将树舌蕨属 *Dendroglossa* 并入本属,包括 11 个种 1 变型,并根据不育叶的形状将之分为两个组,即不育叶卵圆形、顶端圆钝的 Sect. Myuropteris 和不育叶披针形、顶端锐尖的 Sect. Euleptochilus,同时认为本属与线蕨属 *Colysis* 有很近的亲缘关系。Tardieu & Christensen(1941)研究了中南半岛的薄唇蕨属植物,列入了 3 种 1 变型。Copeland(1947)认为薄唇蕨属直接起源于星蕨属而不是线蕨属,他不同意 Christensen 和 Ching 将树舌蕨归入此属的观点,认为 *Leptochilus decurrens* 直接起源于星蕨属而不是线蕨属,而且与 *Leptochilus* 不是同一起源,因此成立了新属似薄唇蕨属 *Paraleptochilus*。Copeland 承认 Presl 于 1849 年成立的 *Dendroglossa*,认为其与线蕨关系密切,二者唯一的区别就在于前者具有典型的二形叶,如能找到此属与 *Colysis membranacea* 的中间类型,此属即可与 *Colysis* 归并。秦仁昌(1978)将星蕨属、线蕨属、薄唇蕨属、似薄唇蕨属和树舌蕨属一并纳入星蕨亚科,认为它们是一个自然的类群。V. G. Tu(1981)研究了越南的薄唇蕨属植物,认为有 3 个种。Hetterscheid

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& Hennipman(1984)通过对星蕨类植物的叶脉类型和孢子囊特征的研究,将线蕨、薄唇蕨、似薄唇蕨及树舌蕨归为一类,但把 *Leptochilus axillaris* 排除出外。他们认为,在 *Leptochilus* 中的一些种和 *Dendroglossa minor* 中,其卤蕨型的孢子囊群有间断而且与主脉呈较小角度的现象,而在 *Colysis* 中的一些种,也有向二型叶发展的趋势。Tryon & Lugarden(1990)利用扫描电镜研究了部分薄唇蕨属和线蕨属植物的孢子形态,认为两属孢子表面均具刺,支持了两属有亲缘联系的观点。吴兆洪和秦仁昌(1991)将孢子囊群线形的线蕨属和修蕨属 *Selliguea* 归于线蕨亚科,而将孢子囊群满布于能育叶下面的薄唇蕨属、似薄唇蕨属、戟蕨属 *Christiopteris* 和树舌蕨属归于薄唇蕨亚科。Bosman(1991)报道的新组合 *Leptochilus buergerianum* 和 *Leptochilus subhemionitideus* 其实是星蕨属植物。Nooteboom(1997)通过对星蕨类植物的叶脉类型和孢子囊特征的仔细研究,认为线蕨属与薄唇蕨属间存在过渡,采用了较大的属的概念,把线蕨属、似薄唇蕨属和树舌蕨属归入本属。

本文在研究薄唇蕨属植物标本和野外考察的基础上,结合解剖学、孢粉学和植物地理学资料,对薄唇蕨属植物作了记述。根据孢子囊群的类型不同将薄唇蕨属和线蕨属分开处理,将孢子囊群为卤蕨型的归入薄唇蕨属。将叶二形、孢子囊群满布于能育叶下面、只根据叶脉的清晰程度和植株的附生或土生而分别成立的 *Paraleptochilus* 和 *Dendroglossa* 归入本属。

1 主要分类性状分析材料和方法

1.1 根状茎 分成两种类型,一种根状茎扁平,根稀疏或近无根,附生,另一种根状茎扁平或卵圆形,根密生,附生或土生。

1.2 根状茎横切面 根状茎的横切面可分为两种类型,一种只具环形维管束鞘(图1:1),另一种具有环形维管束鞘和星散的厚壁组织束(图1:2)。

1.3 鳞片 根据鳞片的大小分为两种类型,一种的鳞片小,长度为0.5~2 mm(图1:3),另一种鳞片大,长度为2~4 mm(图1:4.5)。

1.4 叶形 不育叶的叶形分为两种类型,一种为线状椭圆形或长圆状披针形,基部下延,顶端急尖或渐尖,另一种为卵圆形或三角形,基部心形,顶端钝圆。

1.5 孢子 孢子形态分为两种类型,一种孢子表面具有球形颗粒和刺(图版Ⅰ:1~6),另一种孢子表面只具有球形颗粒(图版Ⅰ:7~9)。

2 薄唇蕨属植物的分类

薄唇蕨属

Leptochilus Kaulf., Enum. Fil. 147, pl. 1, f. 10. 1824; Copel., Philipp. J. Sci. Bot. 37: 338. 1928; Univ. Calif. Publ. Bot. 16: 114. 1929; Ching, Bull. Fan Mem. Inst. Biol. 4: 336. 1933; Tardieu & C. Chr. in Lecomte, Fl. Indo-Chine 7,2: 499. 1941; Copel., Gen. Fil. 197. 1947; Holttum, Revis Fl. Malaya 2: 163. 1954; S. H. Fu, Ill. Import. Chin. Pl. Pterid. 230. 1957; Copel., Fern Fl. Philipp. 3: 487. 1960; Ching *et al*. in Chun *et al*., Fl. Hainan. 1: 182. 1964; Y. L. Zhang *et al*., Sporae Pterid. Sin. 356. 1976; Ching, Acta Phytotax. Sin. 16: 18. 1978; V. G. Tu, Novosti Sist. Vyssh. Rast. 18: 35. 1981; S. H. Wu & Ching, Fern Fam. Gen. China 537. 1991; K. Iwats.,

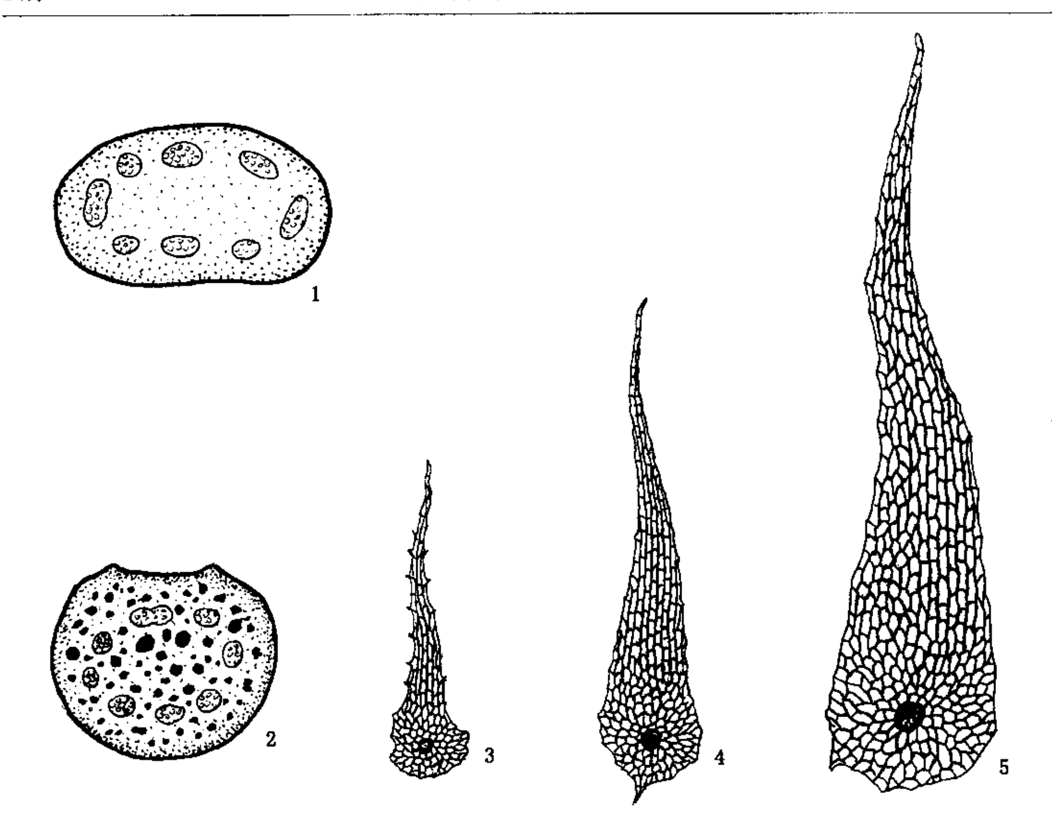


图1　1，2. 根状茎横切面　1. 薄唇蕨；2. 似薄唇蕨。
3，4，5. 鳞片　3. 薄唇蕨(×40)；4. 心形薄唇蕨(×20)；5. 似薄唇蕨(×20)。(冀朝帧 绘)
Fig. 1　1, 2. The cross section of the rhizome of *Leptochilus*　1. *L. axillaris*; 2. *L. decurrens*.
3, 4, 5. Scales　3. *L. axillaris*(×40); 4. *L. cantoniensis*(×20); 5. *L. decurrens*(×20).

Ferns & Fern All. Jap. 271, pl. 186, 3～4, 1992; W.C. Shieh *et al*. in Fl. Taiwan, 2nd ed. 1 : 494. 1994. TYPE: *Leptochilus axillaris* Kaulf.

Dendroglossa C. Presl, Epim. Bot. 149. 1849; Copel., Gen. Fil. 199. 1947; Fern Fl. Philipp. 3: 491. 1960; Ching, Acta Phytotax. Sin. 16: 18. 1978; S. H. Wu & Ching, Fern Fam. Gen. China 538. 1991. TYPE: *Dendroglossa normalis* C. Presl.

Anapausia C. Presl, Epim. Bot. 185. 1851. ——*Paraleptochilus* Copel., Gen. Fil. 198, pl. 7, 1947; Ching, Acta Phytotax. Sin. 16: 18. 1978; V. G. Tu, Novosti Sist. Vyssh. Rast. 18: 36. 1981; S. H. Wu & Ching, Fern Fam. Gen. China 538. 1991. TYPE: *Leptochilus decurrens* (*Blume*) *Copel*.

Myuropteris C. Chr., Dansk Bot. Arkiv 6: 73, pl. 9, f. 1～2; pl. 10, f. 3. 1929. TYPE: *Myuropteris cordata* C. Chr.

Nistarika Nayar, Fern Gaz. 13: 33. 1985. TYPE: *Nistarika bahupunctika* Nayar, Madhus & Molly.

土生或附生植物。根状茎横走或攀援，具网状中柱，无厚壁细胞束，被鳞片；鳞片细小，粗筛孔状，黑色，顶端渐尖，早落。叶远生，二形；叶柄稍长或近无柄，基部有不明显的关节；不育叶为单叶，披针形或卵形，边缘全缘，很少呈撕裂状；能育叶狭缩成线形，其宽度常与叶柄相近；侧脉稍明显，小脉联结成多数网眼，内藏小脉单一或分叉，顶端有水囊；叶草质或纸质，无毛。孢子囊满布能育叶下面，靠近主脉两侧，形成汇生囊群，有时间断而偏

斜;不具隔丝;孢子囊的环带一般由14个增厚细胞组成;孢子极面观椭圆形,赤道面观豆形,淡黄色,单裂缝,表面平坦,散生球形颗粒和缺刻状刺。

TYPE: *Leptochilus axillaris* (Cav.)Kaulf. (*Acrostichum axillare* Cav.)

本属4种,产于亚洲热带地区。我国有3种,分布于华南、西南及台湾(图2)。

分种检索表

1. 根状茎扁平,根稀疏或近无根;具环形维管束鞘;疏生鳞片,鳞片小,狭披针形 ………………………… 1. **薄唇蕨 Leptochilus axillaris** (Cav.)Kaulf.
1. 根状茎扁平或卵圆形,根密生;具环形维管束鞘和星散的厚壁组织束;密生鳞片,鳞片大,阔披针形。
   2. 不育叶长,线状椭圆形或长圆状披针形;基部下延;顶端急尖或渐尖;孢子表面有球形颗粒和长刺 ………………………… 2. **似薄唇蕨 Leptochilus decurrens** Blume
   2. 不育叶短,卵圆形或三角形;基部心形;顶端钝圆;孢子表面只有球形颗粒 ………………………… 3. **心形薄唇蕨 Leptochilus cantoniensis** (Baker)Ching

Key to the species in China

1. Rhizome flattened, clothed with small, narrow lanceolate scales, roots absent or rare at young stage, with circumvascular sheaths in the cortex only ………………………… 1. **Leptochilus axillaris** (Cav.)Kaulf.
1. Rhizome flattened or round, clothed densely with large, broad lanceolate scales, producing sparsely or densely roots, with circumvascular sheaths and scattered strands of sclerenchyma in the cortex.
   2. Sterile leaves long, lanceolate or oblong -lanceolate ; decurrent at base; apical part acute or acuminate; spore with globules and echinae on the surface ………………………… 2. **Leptochilus decurrens** Blume
   2. Sterile leaves short, ovate or deltoid; cordate at base; apical part obtuse; spore with globules on the surface only ………………………… 3. **Leptochilus cantoniensis** (Baker)Ching

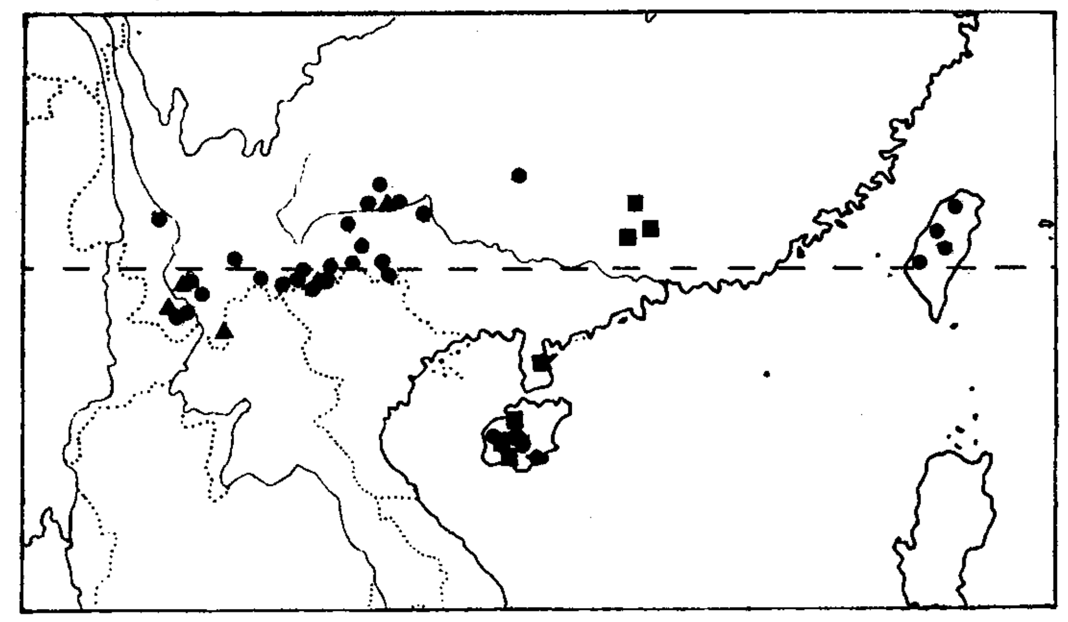


图2 薄唇蕨、似薄唇蕨和心形薄唇蕨在中国的分布

Fig. 2 The distribution of *Leptochilus axillaris*(▲), *L. decurrens*(●) and *L. cantoniensis*(■) in China

2.1 薄唇蕨 图1:1, 3; 图2; 图版Ⅰ: 1~3

Leptochilus axillaris (Cav.)Kaulf., Comp. Bot. Mag. 147. 1824; Blume, Enum. Pl. Jav. 205. 1828; C. Chr., Ind. Fil. 384. 1906; Copel., Philipp. J. Sci. Bot. 37:

339, pl. 1. 1928; Ching, Bull. Fan Mem. Inst. Biol. 4: 346. 1933; C. Chr., Ind. Fil. Suppl. 118. 1934; Tardieu & C. Chr. in Lecomte, Fl. Indo-Chine 7, 2: 499. 1941; Holttum, Revis Fl. Malaya 2: 164, pl. 75. 1954; Copel., Fern Fl. Philipp. 488. 1960; V. G. Tu, Novosti Sist. Vyssh. Rast. 18: 36. 1981; Satija & S. S. Bir, Polypod. Ferns India 80. 1985; Noot., Blumea 42: 278. 1997. ——*Acrostichum axillare* Cav., Anales Hist. Nat. 1: 101. 1799; Descr. Pl. nr. 582. 1801; Sw., Syn. Fil. 11, 16. 1806; Hook. & Baker, Syn. Fil. 320. 1867. ——*Gymnopteris axillaris* var. *axillaris* Bedd., Handb. Ferns Brit. Ind. 430. 1883.

Leptochilus platyphyllus Copel., Philipp. J. Sci. 37: 340, pl. 2. 1928. TYPE: Sumatra. Hancock 61(K, PE).

China(中国). **Guizhou**(贵州): Wangmo(望谟), Guizhou Exped. 843(PE). **Yunnan**(云南): Hekou(河口), K. H. Cai 852(PE), Sino-Russia Yunnan Exped. 2254(KUN, PE), Yunnan Univ. Biol. Dep. Exped. 1259(PE), W. M. Zhu 89(PE); Jinghong(景洪), K. M. Feng 20861(KUN, PE), Sino-Russia Yunnan Exped. 56147(KUN), 56154(KUN); Jinping(金平), Sino-Russia Yunnan Exped. 303(PE), 921(PE); Menghai(勐海), C. W. Wang 74318(KUN, PE); Mengla(勐腊), Sino-Japan Exped. 376(KUN); Menglian(孟连), C. W. Wang 77051(PE); Simao(思茅), R. C. Ching 458(PE); Xishuangbanna(西双版纳), K. M. Feng 20533(KUN, PE), Y. H. Li 1462(KUN), S. J. Pei 59-9699(KUN), Sino-Russia Yunnan Exped. 5248(KUN, PE), 7026(KUN), 7660(KUN), 8240(KUN, PE), 9499(PE).

Java(爪哇): G. Kjellberg s. n. (PE); s. coll. 6990(PE); Legit Mousset 158(PE).

Singapore(新加坡): R. E. Holttum 26219(PE).

India(印度): H. Eberhardt 11201(PE).

Papua(巴布亚): s. coll. 14040, 14342(PE).

附生于林下树干上。分布于中国西南部，印度和中南半岛至马来西亚。

2.2 似薄唇蕨 图1: 2, 5; 图2; 图版Ⅰ: 4~6

Leptochilus decurrens Blume, Enum. Pl. Jav. 206. 1828; C. Chr., Ind. Fil. 385. 1906; Merr., Lingnan Sci. Journ. 5: 11. 1927; Ching, Bull. Fan Mem. Inst. Biol. 4: 345. 1933; C. Chr., Ind. Fil. Suppl. 119. 1934; Tardieu & C. Chr. in Lecomte, Fl. Indo-Chine 7, 2: 502. 1941; Holttum, Revis. Fl. Malaya 2: 164, pl. 74. 1954; S. H. Fu, Ill. Import. Chin. Pl. Pterid. 230. 1957; Ching *et al*. in Chun *et al*., Fl. Hainan. 1: 182, pl. 87. 1964; Ic. Corm. Sin. 1: 263, f. 525. 1972; DeVol & Kuo in H. L. Li *et al*. Fl. Taiwan 1: 189, pl. 65. 1975; Y. L. Zhang *et al*., Sporae Pterid. Sin. 356, f. 112, f. 79, t. 10~13, 1976; Ogata, Icon. Fil. Jap. 3: 478, pl. 478. 1981; K. H. Shing, Gloss. Terms & Names Ferns 62. 1986; Nakaike, New Fl. Jap. Pterid. 673, pl. 673. 1992; K. Iwats., Ferns & Fern All. Jap. 271, pl. 186: 3~4. 1992; Shieh *et al*. in Fl. Taiwan 2nd ed. 1: 494, pl. 192. 1994; Noot., Blumea 42: 279. 1997. ——*Anapausia decurrens* (Blume) C. Presl, Epim. Bot. 186. 1849; Copel., Fern Fl. Philipp. 488. 1960. —— *Paraleptochilus decurrens* (Blume) Copel., Gen. Fil. 198, t. 7. 1947; V. G. Tu, Novosti Sist. Vyssh. Rast. 18: 37. 1981; Satija & S. S. Bir, Polypod. Ferns India 81. 1985; K. H. Shing, Gloss. Terms & Names Ferns 75. 1986. ——*Colysis decurrens* (Blume) Manickam et Irudayaraj, Taxon 46: 267. 1997. TYPE: Java. Blume(L 908.286-

396, photo PE).

Gymnopteris feei T. Moore var. *pinnatifida* Bedd., Ferns S. India 71, t. 211. 1864. ——*Acrostichum variabile* var. *laciniatum* Hook., Sp. Fil. 5: 277. 1864. —— *Campium laciniatum* (Hook.)Copel., Philipp. J. Sci. 37: 354, pl. 5, 1 & pl. 7. 1928. ——*Leptochilus laciniatus* (Hook.)Ching, Bull. Fan Mem. Inst. Biol. 4: 344. 1933; C. Chr., Ind. Fil. Suppl. 119. 1934; V.G. Tu, Novosti Sist. Vyssh. Rast. 18: 36. 1981. ——*Bolbitis laciniata* (Hook.)Abeywickr., Ceylon J. Sci. Sect. A, Bot. 13: 22, nom. invalid. (Art. 33). 1956. TYPE: Ceylon. Gardner (Thwaites CP)1318(K).

Leptochilus laciniatus var. *simplex* Ching, Bull. Fan Mem. Inst. Biol. 4: 344. 1933; Tardieu & C. Chr. in Lecomte, Fl. Indo-Chine 7, 2: 500. 1941. TYPE: Assam, Khasia. Clarke 45389(lectotype K, isotype P).

Leptochilus lanceolatus Fée, Mém. Foug. 2. Hist. Acrost. 87, pl. 47, f. 1. 1845; C.Chr., Ind. Fil. Suppl. 119. 1934; Nakaike, Enum. Pterid. Jap. Fil. 339. 1975; Satija & S.S. Bir, Polypod. Ferns India 81. 1985. ——*Dendroglossa lanceolata* Fée, Mém. Foug. 5. Gen. Fil. 81. 1852, excl. syn. ——*Gymnopteris feei* T. Moore, Ind. Fil. XXIX. 1857. ——*Acrostichum lanceolatum* Hook., Sp. Fil. 5: 276. 1864, non L. 1753. ——*Gymnopteris variabilis* var. *lanceolata* Bedd., Ferns Brit. India Ceylon 429. 1883. ——*Pleopeltis feei* (T. Moore)Alderw., Malaya Ferns Suppl. 1: 405. 1917. —— *Campium lanceolatum* Copel., Philipp. J. Sci. 37: 348, pl. 5,2. 1928. SYNTYPE: Hugel 1348(n.v.); Perrotet(n.v.).

Leptochilus hilocarpus Fée, Mém. Foug. 2. Hist. Acrost. 87, t. 48, f.1. 1845. TYPE: Gaudichaud, voy. De la Bonite(P).

Leptochilus thwaitesianus Fée, Mém. Foug. 10:7.1865; Sledge, Ann. Mag. Nat. Hist. Ser. 12, 9:872.1956; Bull. Brit. Mus. (Nat. Hist.)5:141.1960; Satija & S.S. Bir, Polypod. Ferns India 81.1985. TYPE:Ceylon. Gardner(Thwaites CP)1316(K,L,P).

Leptochilus zeylanicus Fée, Mém. Foug. 10: 8. 1865; Ching, Bull. Fan Mem. Inst. Biol. 4: 347. 1933; C.Chr., Ind. Fil. Suppl. 120. 1934. ——*Dendroglossa zeylanica* Copel., Gen. Fil. 199. 1947. TYPE: Ceylon. Gardner(Thwaites CP)1317(K, L, P).

Gymnopteris feei (T. Moore) forma *anomala* Bedd., Ferns Brit. India t. 274. 1868. TYPE: Bedd.(l.c.) t. 274.

Gymnopteris feei (T. Moore) var. *triloba* Bedd., Ferns Brit. India t. 273. 1868. TYPE: Bedd.(l.c.) t. 273.

Acrostichum listeri Baker, J. Linn. Soc. Bot. 25: 361. 1889. ——*Leptochilus listeri* (Baker)C. Chr. , Ind. Fil. 386. 1906; Ching, Bull. Fan Mem. Inst. Biol. 4: 349. 1933. TYPE: Christmas Isl. Lister s.n.(K).

Leptochilus dichotomophlebia Hayata, Ic. Pl. Form. 4: 202. 1914, pro syn; C. Chr., Ind. Fil. Suppl. 2: 20. 1917; Ching *et al*. in Chun *et al*., Fl. Hainan. 1: 182. 1964; Y. L. Zhang *et al*., Sporae Pterid. Sin. 356, f. 79. t. 8~9. 1976. —— *Gymnopteris dichotomophlebia* Hayata, Ic. Pl. Form. 4: 201, f. 136. 1914. TYPE: T. Herb. 1271(photo PE).

Colysis poilanei C. Chr. & Tardieu, Notul. Syst.(Paris) 8: 201. 1939; Tardieu & C.Chr. in Lecomte, Fl. Indo-Chine 7, 2: 491, f. 58. 1941; Pic. Serm., Ind. Fil. Suppl. 50. 1965; V.G. Tu, Novosti Sist. Vyssh. Rast. 18: 31. 1981. TYPE: Annam. Poilane 5373(P; isotype, BM).

Colysis evrardii Tardieu, Bull. Soc. Bot. France 87: 372, t.2 f. 3,4. 1941. TYPE:

Annam, Dalat. Evrard 2250(BM).

China(中国). **Guangxi**(广西): Longlin(隆林), H. G. Zhou 3322(GXAU); Longsheng(龙胜), Z. T. Li *et al*. 600185(KUN); Napo(那坡), H. G. Zhou 2661(GAUA); Tiane(天峨), Beijing Exped. 891410(PE); Tianlin(田林), C. C. Chang 11089(IBSC, KUN). **Guizhou**(贵州): Anlong(安龙), Guizhou Exped. 2423(PE); Wangmo(望谟), Guizhou Exped. 843(PE), 2161(PE); Ziyun(紫云), P. S. Wang 76153(WPS). **Hainan**(海南): Baisha(白沙), S. K. Lau 25801(IBSC, PE); Danxian(儋县), Hainan Veg. Exped. 963(IBSC, PE); Diaoluoshan(吊罗山), Z. X. Li & F. W. Xing 1558(IBSC); Lingshui(陵水), C. Wang 36710(IBSC); Qiongzhong(琼中), 236-6 Exped. 1669(PE); C. Wang 35755(PE). **Taiwan**(台湾): S. Tanaka s. n. (PE); Y. Yamamoto s. n. (PE). **Yunnan**(云南): Funing(富宁), C. W. Wang 88871(KUN, PE); Guangnan(广南), Z. R. Wang 416(PE); Hekou(河口), W. M. Chu 5702(PE); Jingdong(景东), M. K. Li 2631(KUN); Jinghong(景洪), M. K. Li 2558(KUN), Sino-Russia Yunnan Exped. 9754(PE), C. W. Wang 78703(PE); Jinping(金平), Sino-Russia Yunnan Exped. 303(PE), 558(KUN, PE), 600(PE), 887(PE), 921(KUN, PE), 2596(PE); Luchun(绿春), W. M. Chun *et al*. 6595(WPS), Luchun Exped. 73(PE); Malipo(麻栗坡), K. M. Feng 12944(KUN, PE), 13768(KUN, PE), C. W. Wang 83918(PE), 86119(KUN); Menghai(勐海), Sino-Russia Yunnan Exped. 5176(PE), 7118(PE), C. W. Wang 73651(IBSC, PE), 74459(PE), Yunnan 2nd Exped. 380(PE); Mengzi(蒙自), W. Hancock 50(PE); Pingbian(屏边), C. W. Wang 82462(KUN); Puer(普洱), Sino-Russia Yunnan Exped. 6184(PE); Simao(思茅), Ching 469(PE), 596(PE), Sino-Russia Yunnan Exped. 9052(PE); Xichou(西畴), S. Z. Wang 437(KUN), Z. R. Wang 574, 584, 611(PE); Xinping(新平), W. M. Chu 441(PE); Xishuangbanna(西双版纳), W. M. Chu 2112(PE), K. M. Feng 20718(PE), A. Henry 9246B(PE), Sino-Russia Yunnan Exped. 5941, 7305(PE); Yingjiang(盈江), Q. Z. Dong 787, 788, 794(PE).

Java(爪哇): s. coll. 248(PE); H. F. Sun s. n. (PE); s. coll. 6985(PE).

Philippines(菲律宾): E. B. Copeland s. n. (PE).

Vietnam(越南): Sino-Vietnam Exped. 350, 754, 1087, 1532, 2258(PE).

生长在密林下阴湿的溪边岩石上或小乔木的树干基部。分布于华南及西南。波利尼西亚、南沙群岛、中印半岛、印度东北部及南部也有分布。

2.3　心叶薄唇蕨　图1: 4; 图2; 图版Ⅰ: 7~9

Leptochilus cantoniensis (Baker) Ching, Bull. Fan Mem. Inst. Biol. 4: 343. 1933; C. Chr., Ind. Fil. Suppl. 118. 1934; Noot., Blumea 42: 278. 1997. ——*Gymnogramma cantoniense* Baker in Hook. & Baker, Icon. Pl. t. 1685. 1887. ——*Polypodium cantoniense* (Baker) C. Chr., Ind. Fil. 515. 1906. ——*Christiopteris cantoniensis* (Baker) Christ, J. Bot. (Morot) 21: 273. 1908. ——*Campium cantoniense* (Baker) Ching, Sinensia 1: 54. 1930. ——*Dendroglossa cantoniensis* (Baker) Copel., Gen. Fil. 199. 1947. TYPE: China, Kwangtung, North River, Ford(n. v.), Ⅻ-1878.

Leptochilus cordatus (Christ) Ching, Bull. Fan Mem. Inst. Biol. 4: 343. 1933; C.

Chr., Ind. Fil. Suppl. 118. 1934; Tardieu & C. Chr. in Lecomte, Fl. Indo-Chine 7,2: 500, f. 59: 1~2. 1941; V. G. Tu, Novosti Sist. Vyssh. Rast. 18: 36. 1981; K. H. Shing, Gloss. Terms & Names Ferns 62. 1986. ——*Drymoglossum cordatum* Christ, Lecomte Not. Syst. 1: 375. 1911. ——*Myuropteris cordata* C. Chr., Dansk Bot. Archiv. 6: 73, pl. 9, f. 1, 2; pl. 10, f. 3. 1929. TYPE: Annam, Ba Long, Hou-me, on rocks along stream. Cadier 158(holotype, P).

Campium dilatatum Copel., Philipp. J. Sci. 37: 347, pl. 4, 2. 1928. TYPE: China. Hainan, E. Smith 1446(UC, n.v.).

China(中国). **Guangdong**(广东): Leizhou(雷州), Mathew 1907(PE); Ruyuan(乳源), W. Y. Chun 10936(IBSC), S. P. Ko 54111(IBSC); Yangshan(阳山), L. Teng 1568(KUN). **Hainan**(海南): Baoting(保亭), W. M. Chu *et al*. 18186(KUN photo); Danxian(儋县), N.K. Chun 44655(PE), Z. X. Li & X. F. Wu 1058(IBSC), C. Wang 34321(IBSC); Ledong(乐东), S. K. Lau 26929(IBSC), K. H. Shing 1570(PE); Sanya(三亚), Z. X. Li 2600(IBSC). **Hunan**(湖南): Yizhang(宜章), S. H. Chun 3536(IBSC).

分布于湖南、广东和海南。生长在密林下潮湿岩石上或土中。越南也有分布。

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参 考 文 献

Bosman M T M, 1991. A Monograph of the Fern Genus *Microsorum* (Polypodiaceae). Rijksherbarium/Hortus Botanicus: Leiden University

Ching R-C(秦仁昌), 1933. Studies in Chinese ferns Ⅹ. Bull Fan Mem Inst Biol, 4: 293~362

Ching R-C(秦仁昌), 1978. The Chinese fern families and genera: Systematic arrangement and historical origin. Acta Phytotax Sin(植物分类学报), 16(3): 1~19; 16(4): 16~37

Copeland E B, 1928. *Leptochilus* and genera confused with it. Philipp J Sci, 37: 333~416

Copeland E B, 1947. Genera Filicum. Waltham Mass: Chronica Botanica Co.

Hetterscheid W L A, Hennipman E, 1984. Venation patterns, characteristics and shape of the fronds of the microsorioid Polypodiaceae. Bot Jahrb Syst, 105: 11~47

Nooteboom H P, 1997. The microsoroid ferns. Blumea, 42(2): 261~395

Shing K-H(邢公侠), 1986. A Glossary of Terms and Names of Ferns. Beijing: Science Press

Tardieu-Blot, Christensen C, 1941. Polypodioidees in Lecomte H. Florae Generale L'Indo-Chine. 7(2): 499~502

Tryon A F, Lugardon B, 1990. Spores of Pteridophyta, Surface, Wall Structure and Diversity Based on Electron Microscope Studies. New York: Springer-Verlag

Tu V G, 1981. Conspectus of Families of the Polypodiaceae Bercht. et J. Presl Vietnamese Flora in Novosti Sist Vyssh Rast, 18: 35~37

Wu S-H(吴兆洪), Ching R-C(秦仁昌), 1991. Fern Families and Genera of China. Beijing: Science Press

Zhang Y-L(张玉龙), Xi Y-Z(席以珍), Zhang J-T(张金谈), Gao G-Z(高桂珍), Du N-Q(杜乃秋), Sun X-J(孙湘君), Kong Z-C(孔昭宸), 1976. Sporae Pteridophyta Sinica. Beijing: Science Press

图版说明 Explanation of plate

图版Ⅰ 1~3. 薄唇蕨(Sino-Japan Exped. 376); 4~6. 似薄唇蕨(Beijing Exped. 891410); 7~9. 心形薄唇蕨(L. Teng 1568) (1, 3, 7, 9. ×1020; 2, 5, 8. ×4800; 4. ×900; 6. ×1200)。

Plate Ⅰ 1~3. *Leptochilus axillaris* (Sino-Japan Exped. 376); 4~6. *L. decurrens* (Beijing Exped. 891410); 7~9. *L. cantoniensis* (L. Teng 1568) (1, 3, 7, 9. ×1020; 2, 5, 8. ×4800; 4. ×900; 6. ×1200)

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See explanation at the end of text